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Coronary Lesions - Other

Washington Convention Center, Lower Level, Hall A

Saturday, September 13, 2014, 5:00 PM–7:00 PM

Abstract nos: 240-241

TCT-240

Impact of Coronary Ostial lesions for Clinical Outcomes After Percutaneous Coronary Intervention

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Background: It is well known that right coronary artery ostium (RCA-os) is anatomically different from unprotected left main ostium (ULM-os). However, there is a little data regarding the comparison of clinical outcome of percutaneous coronary intervention (PCI) between RCA-os and ULM-os. Therefore, to clarify the difference of impact between each ostial lesion, clinical outcomes following PCI between patients who were treated for RCA-os and those for ULM-os were compared.
Methods: Between January 2004 and December 2011, 1021 consecutive patients treated for ostial lesions were included in this analysis. After exclusion of patients treated for both RCA-os and ULM-os, 189 patients with RCA-os and 602 patients with ULM were enrolled. The study endpoints were major adverse cardiac event (MACE) during follow up period (median Follow-up 37.4 months) which defined as target lesion revascularization (TLR), all cause death and MI. Furthermore, the composite of MACE were evaluated. TLR for ULM-os was considered as treatments for restenosis of ULM-os itself.
Results: Baseline and procedural characteristics were not significantly different between the 2 groups. The occurrence of MACE was significantly higher in the RCA-os than the ULM-os due to the high rate of TLR ($p< 0.001$, HR=6.349, 95%CI 3.980-10.129). On the contrary, all cause death was significantly higher in the ULM-os than the RCA-os ($p=0.004$, HR=5.627, 95%CI 1.748-18.107).
Conclusions: The TLR rate was significantly higher in patients with RCA-os than in those with ULM-os, while all cause mortality was significantly higher in ULM-os compared to RCAos.

TCT-241

Two-Year Clinical Outcome of Patients With Implantation of Second-Generation Drug-Eluting Stents in the Right Coronary Ostium in the TWENTE Trial

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Background: Treatment of the aorta-ostial (AO) region of the right coronary artery (RCA) with bare metal stents and first-generation drug-eluting stents (DES) has been associated with a higher risk of target-lesion revascularization (TLR). The aim of the present analysis was to assess the impact on clinical outcome of RCA ostial stent coverage with second-generation DES.
Methods: We identified from the total of 1,391 TWENTE trial patients 321 (23%) patients with single-vessel RCA treatment. The angiographic data of these patients were categorized into stenting with AO stent coverage (AOC) versus stenting without AO stent coverage. A patient was allocated to the AOC group, if any part of the stent covered the AO region (i.e., within 3 mm of the aortic orifice).
Results: The 67 (20.9%) patients with AOC showed more severe lesion calcification than the 254 patients without AOC (31.3% vs. 12.6%; $p< 0.01$). In the AOC group, there was a higher prevalence of hypercholesterolemia and family history of coronary disease (75.4% vs. 61.6%, and 68.7% vs. 53.5%, respectively; $p=0.03$). During 2-year follow-up, patients in the AOC group had a higher incidence of TLR (7.5% vs. 1.6%; $p=0.02$). Following adjustment for confounders, AOC independently predicted TLR with an adjusted hazard ratio of 4.1 (95%CI: 1.17-15.48; $p=0.04$).
Conclusions: Treatment of the AO region of the RCA with second-generation DES is feasible, but our data suggest that stent coverage of the right AO segment remains a predictor of TLR.

Diabetes

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Outcomes with Coronary Artery Bypass Graft Surgery vs. Percutaneous Coronary Intervention for Patients with Diabetes Mellitus - Can Newer Generation Drug Eluting Stents Bridge the Gap?

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Background: Coronary artery bypass graft surgery (CABG) compared with percutaneous coronary intervention (PCI) reduces mortality in diabetics. However, prior trials compared CABG with balloon angioplasty or older generation stents and it is not known if the gap between CABG and PCI can be reduced by newer generation drug eluting stents (DES).
Methods: PUBMED/EMBASE/CENTRAL, search for randomized trials comparing mode of revascularization in patients with diabetes. Primary outcome was all-cause mortality. Secondary outcomes were myocardial infarction (MI), repeat revascularization and stroke. Mixed treatment comparison analyses were performed using a random effects Poisson regression model.
Results: Seventy-two randomized trials that enrolled 24,742 diabetic patients with a total of 72,387 patient-years of follow-up satisfied our inclusion criteria. When compared with CABG (reference RR= 1.0), PCI with BMS [RR=1.32(1.01-1.78)], PES [RR=1.54 (1.14-2.03)] or SES [RR=1.40 (1.08-1.88)] were each associated with an increase in mortality. However, PCI with 2nd generation DES-CoCr EES [RR =1.12 (0.67-2.10)] or ZES-R [RR 1.15 (0.28-6.27)] were not associated with a statistically significant increase in mortality. When compared with CABG, there was excess repeat revascularization with PCI which progressively declined from POBA (335% increase) to BMS (220% increase) to PES (82% increase) and to SES (47% increase). However, for PCI with CoCr EES [RR =1.32 (0.75-2.24)] and ZES-R [RR =2.37 (0.97-5.80)], the excess repeat revascularization was not statistically significant, although the point estimate favored CABG. CABG was associated with numerically higher stroke.
Conclusions: In patients with diabetes, evidence from indirect comparison show similar mortality between CABG and PCI using 2nd generation DES. CABG was associated with numerically excess stroke and PCI with 2nd generation DES with numerically increased repeat revascularization. This hypothesis needs to be tested in future trials.

TCT-243

Impact of Pioglitazone on Cardiovascular Events in Patients with Diabetes Mellitus after Drug-eluting Stent Implantation: Evidence from 3-Year Follow-up Results of the J-DESsERT Trial

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Background: The outcome of patients with diabetes mellitus (DM) after drug-eluting stent (DES) implantation is worse than that of patients without DM. Pioglitazone (Pio) decreases cardiovascular (CV) events via anti-atherosclerotic effects, as well as a blood glucose-lowering effect in patients with DM. We reported that Pio significantly decreased CV events in Japanese patients with DM after DES implantation according to 1-year follow-up results of the J-DESsERT trial.
Methods: This study aimed to evaluate the effect of Pio on CV events in Japanese patients with DM after DES implantation based on 3-year follow-up results of the J-DESsERT trial. In the J-DESsERT trail, a prospective multicenter randomized controlled trial, 3533 patients were randomized 1:1 to coronary stenting with either a sirolimus-eluting stent or a paclitaxel-eluting stent, and followed for 3 years. The criteria of lesion length was $\leq$ 46 mm with vessel diameters from $\geq$2.5 to $\leq$ 3.75 mm. Definitions for DM in this trial were (1) previous diagnosis of DM; (2) currently on diabetic medication (oral hypoglycemic drugs or injection of insulin preparation); and (3) HbA1c$\geq$6.9%(NGSP) within 30 days before the procedure.
Results: The number of patients with DM was 1705 (48%) in this trial. Among them, 357 patients had been medicated with Pio before percutaneous coronary intervention. The rate of CV events (death, myocardial infarction, target vessel